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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/758,831 | 01/11/2001 | Yue Chen | 206585 | 8533 |

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EXAMINER

SCHNEIDER, JOSHUA D

ART UNIT PAPER NUMBER

2182

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 09/758,831 | Applicant(s) CHEN ET AL. | |
| | Examiner Joshua D. Schneider | Art Unit 2182 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 9, 17, and 24, have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant has, however, made arguments that need to be addressed. Applicant has argued that the emulator does not create failure of physical connections between the second network adapter and the respective network servers in the private network. It is certainly true that the physical ports do not themselves fail, but what must be found is that the physical connection fails. For this to occur the connection must no longer be operative. This is traditionally done by physically unplugging the connection, but this is the type of action both the Applicant and the Kram reference wish to eliminate. The examiner believes that Kram teaches such a failure when discussing the persistent communication outages (column 2, lines 45-51), that are different from the packet delays, drops (deletions), reordering (shuffling), and introducing errors (corruption) that are transient problems (column 3, lines 33-42). A new rejection pointing to this claim limitation and an alternative rejection with more explicit teaching of physical network failures are provided below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,314,531 to Kram in further view of How Networks Work by Derfler and the Applicant Admitted Prior Art (AAPA).

5. With regards to claims 1, 9, 17, 24 and 31, Kram teaches network-switching elements with connections to external networks and connections to network servers (See Fig. 3). Kram teaches that it is well known to test and debug for many types of communications failures, including transient and persistent failures (column 2, lines 12-23 and 45-51), by emulating such communication persistent failures of physical connections (column 3, lines 30-55) the associated fail-over mechanism is tested. Kram fails to explicitly teach the tested element being a switch between an external network and a private network. Kram does teach that the both LANs (typically private) and WANs (typical of external connections to private networks) are well known in the art (column 1, lines 7-59). Derfler further teaches that the switching between LANs and WANs was well known in the art (pages 144-151, 163-167, and 196-201). These connections between various networks are often accomplished with Point-to-Point Tunneling Protocols (PPTP) or Private Network-to-Network Interfaces (PNNI). These well known systems allow secure connections to private networks from external networks as taught by Derfler. The AAPA also teaches that private networks are well known in server networks for the Internet. These networks must be connected to public networks from which users may access the information on the private networks. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the network testing of Kram to the external network accesses of private WANs of Derfler and the AAPA in order to provide more robust testing of the fault rich WAN environment.

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6. With regards to claims 2 and 15, Kram teaches that the test controller must be in communication with the external network through which it is conducting its tests (column 4, lines 3-13).

7. With regards to claims 3-7, 10-14, 18-22, and 25-29, Kram teaches using data operations such as delays, drops (deletions), reordering (shuffling), and introducing errors (corruption), in order to test and debug network systems (see abstract and column 3, lines 33-50).

8. Claims 8, 16, 23, and 30, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,314,531 to Kram and How Networks Work by Derfler as applied to claims 1, 3-7, 9-14, 17-22, and 24-29 above, and further in view of "Crash-Proof," PC Magazine, by Derfler.

9. With regards to claims 8, 16, 23, and 30, Kram and How Networks Work by Derfler fail to teach network flow monitoring in the traditional sense of the phrase, though it is well known in the art and necessary to the rerouting of the data for the emulation that is taught. However, as taught in "Crash-Proof," by Derfler, monitoring flows for load balancing is very well known in the art (page 136 and 137). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the load balancing of Derfler with the switch of Kram and Derfler in order to create a more robust network switching system.

10. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,314,531 to Kram in further view of How Networks Work by Derfler, the Applicant Admitted Prior Art (AAPA), and U.S. Patent 5,862,362 to Somasegar et al.

11. With regards to claims 1, 9, 17, 24 and 31, Kram teaches network-switching elements with connections to external networks and connections to network servers (See Fig. 3). Kram teaches that it is well known to test and debug for many types of communications failures,

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including transient and persistent failures (column 2, lines 12-23 and 45-51), by emulating such communication persistent failures of physical connections (column 3, lines 30-55) the associated fail-over mechanism is tested. Kram fails to explicitly teach the tested element being a switch between an external network and a private network. Kram does teach that the both LANs (typically private) and WANs (typical of external connections to private networks) are well known in the art (column 1, lines 7-59). Derfler further teaches that the switching between LANs and WANs was well known in the art (pages 144-151, 163-167, and 196-201). These connections between various networks are often accomplished with Point-to-Point Tunneling Protocols (PPTP) or Private Network-to-Network Interfaces (PNNI). These well known systems allow secure connections to private networks from external networks as taught by Derfler. The AAPA also teaches that private networks are well known in server networks for the Internet. These networks must be connected to public networks from which users may access the information on the private networks. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the network testing of Kram to the external network accesses of private WANs of Derfler and the AAPA in order to provide more robust testing of the fault rich WAN environment.

12. With further regards to claims 1, 9, 17, 24 and 31, Kram does not explicitly call the creation persistent connection failures the “creation of failures of physical connections.”

However, Somasegar teaches that to create failures of physical connections normally caused by unplugging the connection is accomplished by using substitute handler systems such as the one described by Kram to effectively cut off the sending and receiving of data (column 1, line 29, through column 2, line 20). It would have been obvious to one of ordinary skill in the art at the

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time of invention to use the creation of failures of physical connections of Somasegar with the network test system of Kram in order to test network robustness to better identify errors and verify functionality.

13. All dependent claims are rejected as indicated above.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,442,141 to Borella et al. teaches the persistent dropping of data packets to simulated network loss. U.S. Patent 6,901,357 to Patiejunas teaches altering network characteristics to simulate various network failures.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Schneider whose telephone number is (571) 272-4158. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDS



**KIM HUYNH
PRIMARY EXAMINER**

12/22/15